

CLAIMS

What is claimed is:

- 1 1. A method comprising:
2 transmitting a first protocol data unit over an air interface, wherein the first
3 protocol data unit includes
4 a first preamble, which enables a receiver to synchronize, and
5 which is transmitted at a first modulation rate;
6 a first header, following the first preamble, which is transmitted
7 at the first modulation rate; and
8 a first service data unit, following the first header, which is
9 transmitted at a second modulation rate; and
10 transmitting a second protocol data unit over the air interface before
11 expiration of an interframe space.
- 1 2. The method of claim 1, wherein transmitting the second protocol data unit
2 begins approximately at a next symbol boundary after an end of transmitting the
3 first protocol data unit.
- 1 3. The method of claim 1, wherein the second protocol data unit includes:
2 a second preamble, which is transmitted at the first modulation rate;
3 a second header, following the second preamble, which is transmitted at the
4 first modulation rate; and
5 the second service data unit, following the second header, which is
6 transmitted at a third modulation rate.
- 1 4. The method of claim 3, wherein the first preamble includes a full-length
2 preamble, and wherein the second preamble includes a partial preamble.

1 5. The method of claim 4, wherein the first preamble consumes approximately
2 two symbol widths, and wherein the second preamble consumes approximately one
3 symbol width.

1 6. The method of claim 1, wherein the second protocol data unit includes:
2 a second header, which is transmitted at the first modulation rate; and
3 the second service data unit, following the second header, which is
4 transmitted at a third modulation rate.

1 7. The method of claim 1, wherein the interframe space is a time period from a
2 group of time periods including a short interframe space, a priority interframe space,
3 a distributed interframe space, and an extended interframe space, as defined in an
4 IEEE 802.11 Standard.

1 8. The method of claim 1, wherein the header includes a physical device
2 header.

1 9. The method of claim 1, wherein the first modulation rate is in a range of
2 approximately 6 to 12 megabits per second.

1 10. The method of claim 1, wherein the second modulation rate is in a range of
2 approximately 6 to 240 megabits per second.

1 11. A method comprising:
2 receiving a first protocol data unit over an air interface, wherein the first
3 protocol data unit includes
4 a first preamble, which enables a receiver to synchronize, and
5 which is received at a first modulation rate;
6 a first header, following the first preamble, which is received at
7 the first modulation rate; and

8 the first service data unit, following the first header, which is
9 received at a second modulation rate; and
10 receiving a second protocol data unit over the air interface before expiration
11 of an interframe space.

1 12. The method of claim 11, wherein the second protocol data unit includes:
2 a second preamble, which is received at the first modulation rate;
3 a second header, following the second preamble, which is received at the
4 first modulation rate; and
5 the second service data unit, following the second header, which is received
6 at a third modulation rate.

1 13. The method of claim 12, wherein the first preamble includes a full-length
2 preamble, and wherein the second preamble includes a partial preamble.

1 14. The method of claim 13, wherein the first preamble consumes approximately
2 two symbol widths, and wherein the second preamble consumes approximately one
3 symbol width.

1 15. The method of claim 11, wherein the second protocol data unit includes:
2 a second header, which is received at the first modulation rate; and
3 the second service data unit, following the second header, which is received
4 at a third modulation rate.

1 16. The method of claim 15, wherein the second header further includes a data
2 integrity field, the method further comprising:
3 determining whether the second header is valid using information in the data
4 integrity field; and
5 if the second header is not valid, evaluating at least one header-sized data
6 segment subsequently received to attempt to find another possible header.

1 17. The method of claim 11, wherein the interframe space is a time period from
2 a group of time periods including a short interframe space, a priority interframe
3 space, a distributed interframe space, and an extended interframe space, as defined
4 in an IEEE 802.11 Standard.

1 18. The method of claim 11, wherein the header includes a physical device
2 header.

1 19. The method of claim 11, wherein the first modulation rate is in a range of
2 approximately 6 to 12 megabits per second.

1 20. The method of claim 11, wherein the second modulation rate is in a range of
2 approximately 6 to 240 megabits per second.

1 21. An apparatus comprising:
2 a medium access control device, which is operable to provide multiple data
3 units destined for a receiver to a physical device; and
4 the physical device, coupled to the medium access control device, which is
5 operable to
6 transmit a first protocol data unit over an air interface, wherein the
7 first protocol data unit includes
8 a first preamble, to enable a receiver to synchronize, and
9 which the physical device is to transmit at a first modulation rate;
10 a first header, following the first preamble, which the
11 physical device is to transmit at the first modulation rate; and
12 the first service data unit, following the first header,
13 which the physical device is to transmit at a second modulation
14 rate; and
15 transmit a second protocol data unit over the air interface before
16 expiration of an interframe space.

1 22. The apparatus of claim 21, wherein the physical device is further operable to
2 transmit the second protocol data unit beginning approximately at a next symbol
3 boundary after an end of transmitting the first protocol data unit.

1 23. The apparatus of claim 21, wherein the second protocol data unit includes:
2 a second preamble, which the physical device is to transmit at the first
3 modulation rate;
4 a second header, following the second preamble, which the physical device
5 is to transmit at the first modulation rate; and
6 the second service data unit, following the second header, which the physical
7 device is to transmit at a third modulation rate.

1 24. The apparatus of claim 23, wherein the first preamble includes a full-length
2 preamble, and wherein the second preamble includes a partial preamble.

1 25. The apparatus of claim 24, wherein the first preamble consumes
2 approximately two symbol widths, and wherein the second preamble consumes
3 approximately one symbol width.

1 26. The apparatus of claim 21, wherein the second protocol data unit includes:
2 a second header, which the physical device is to transmit at the first
3 modulation rate; and
4 the second service data unit, following the second header, which the physical
5 device is to transmit at a third modulation rate.

1 27. The apparatus of claim 21, wherein the interframe space is a time period
2 from a group of time periods including a short interframe space, a priority
3 interframe space, a distributed interframe space, and an extended interframe space,
4 as defined in an IEEE 802.11 Standard.

1 28. The apparatus of claim 21, further comprising one or more antennae,
2 coupled to the physical device, which are operable to provide an interface between
3 the air interface and the physical device.

1 29. The apparatus of claim 21, further comprising an optical transmission
2 device, coupled to the physical device, which is operable to provide an interface
3 between the air interface and the physical device.

1 30. An apparatus comprising:
2 a medium access control device, which is operable to receive multiple data
3 units from a physical device; and
4 the physical device, coupled to the medium access control device, which is
5 operable to
6 receive a first protocol data unit over an air interface, wherein the
7 first protocol data unit includes
8 a first preamble, to enable a receiver to synchronize, and
9 which the physical device is to receive at a first modulation rate;
10 a first header, following the first preamble, which the
11 physical device is to receive at the first modulation rate; and
12 the first service data unit, following the first header,
13 which the physical device is to receive at a second modulation
14 rate; and
15 receive a second protocol data unit over the air interface before
16 expiration of an interframe space.

1 31. The apparatus of claim 30, wherein the second protocol data unit includes:
2 a second preamble, which the physical device is to receive at the first
3 modulation rate;
4 a second header, following the second preamble, which the physical device
5 is to receive at the first modulation rate; and

6 the second service data unit, following the second header, which the physical
7 device is to receive at a third modulation rate.

1 32. The apparatus of claim 31, wherein the first preamble includes a full-length
2 preamble, and wherein the second preamble includes a partial preamble.

1 33. The apparatus of claim 32, wherein the first preamble consumes
2 approximately two symbol widths, and wherein the second preamble consumes
3 approximately one symbol width.

1 34. The apparatus of claim 30, wherein the second protocol data unit includes:
2 a second header, which the physical device is to receive at the first
3 modulation rate; and
4 the second service data unit, following the second header, which the physical
5 device is to receive at a third modulation rate.

1 35. The apparatus of claim 34, wherein the second header further includes a data
2 integrity field, and wherein the physical device is further operable to:
3 determine whether the second header is valid using information in the data
4 integrity field; and
5 if the second header is not valid, evaluate at least one header-sized data
6 segment subsequently received to attempt to find another possible header.

1 36. The apparatus of claim 30, wherein the interframe space is a time period
2 from a group of time periods including a short interframe space, a priority
3 interframe space, a distributed interframe space, and an extended interframe space,
4 as defined in an IEEE 802.11 Standard.

1 37. The apparatus of claim 30, wherein the header includes a physical device
2 header.

1 38. The apparatus of claim 30, further comprising one or more antennae,
2 coupled to the physical device, which is operable to provide an interface between
3 the air interface and the physical device.

1 39. The apparatus of claim 30, further comprising an optical transmission
2 device, coupled to the physical device, which is operable to provide an interface
3 between the air interface and the physical device.

1 40. A computer-readable medium having program instructions stored thereon to
2 perform a method, which when executed within a wireless local area network
3 device, result in:

4 transmitting a first protocol data unit over an air interface, wherein the first
5 protocol data unit includes

6 a first preamble, which enables a receiver to synchronize, and
7 which is transmitted at a first modulation rate;

8 a first header, following the first preamble, which is transmitted
9 at the first modulation rate; and

10 the first service data unit, following the first header, which is
11 transmitted at a second modulation rate; and

12 transmitting a second protocol data unit over the air interface before
13 expiration of an interframe space.

1 41. The computer-readable medium of claim 40, wherein transmitting the
2 second protocol data unit begins approximately at a next symbol boundary after an
3 end of transmitting the first protocol data unit.

1 42. The computer-readable medium of claim 40, wherein the second protocol
2 data unit includes:

3 a second preamble, which is transmitted at the first modulation rate;

4 a second header, following the second preamble, which is transmitted at the
5 first modulation rate; and

6 the second service data unit, following the second header, which is
7 transmitted at a third modulation rate.

1 43. The computer-readable medium of claim 42, wherein the first preamble
2 includes a full-length preamble, and wherein the second preamble includes a partial
3 preamble.

1 44. The computer-readable medium of claim 43, wherein the first preamble
2 consumes approximately two symbol widths, and wherein the second preamble
3 consumes approximately one symbol width.

1 45. The computer-readable medium of claim 40, wherein the second protocol
2 data unit includes:
3 a second header, which is transmitted at the first modulation rate; and
4 the second service data unit, following the second header, which is
5 transmitted at a third modulation rate.

1 46. A computer-readable medium having program instructions stored thereon to
2 perform a method, which when executed within a wireless local area network
3 device, result in:
4 receiving a first protocol data unit over an air interface, wherein the first
5 protocol data unit includes
6 a first preamble, which enables a receiver to synchronize, and
7 which is received at a first modulation rate;
8 a first header, following the first preamble, which is received at
9 the first modulation rate; and
10 the first service data unit, following the first header, which is
11 received at a second modulation rate; and
12 receiving a second protocol data unit over the air interface before expiration
13 of an interframe space.

1 47. The computer-readable medium of claim 46, wherein the second protocol
2 data unit includes:
3 a second preamble, which is received at the first modulation rate;
4 a second header, following the second preamble, which is received at the
5 first modulation rate; and
6 the second service data unit, following the second header, which is received
7 at a third modulation rate.

1 48. The computer-readable medium of claim 47, wherein the first preamble
2 includes a full-length preamble, and wherein the second preamble includes a partial
3 preamble.

1 49. The computer-readable medium of claim 48, wherein the first preamble
2 consumes approximately two symbol widths, and wherein the second preamble
3 consumes approximately one symbol width.

1 50. The computer-readable medium of claim 46, wherein the second protocol
2 data unit includes:
3 a second header, which is received at the first modulation rate; and
4 the second service data unit, following the second header, which is received
5 at a third modulation rate.

1 51. The computer-readable medium of claim 46, wherein the second header
2 further includes a data integrity field, and executing the program instructions further
3 results in:
4 determining whether the second header is valid using information in the data
5 integrity field; and
6 if the second header is not valid, evaluating at least one header-sized data
7 segment subsequently received to attempt to find another possible header.